

geometry of the pump and perform a CFD simulation that calculates flow velocities and pressures throughout the pump. The complete information provided by the simulation easily detects design issues that might reduce the performance of the pump and, just as important, pinpoints their location and cause so that engineers can easily solve the problem. For example, the simulation might show that the flow is separating from one of the surfaces of the pump. The engineers can adjust the geometry to correct the problem and verify the new design with another simulation. Without the CFD analysis, while the rapid prototype may have determined that something was harming efficiency, engineers would have to resort to trial and error to solve the problem. Many more design iterations would be required, each delaying the product introduction and causing thousands of dollars in engineering and prototyping costs.

The results of the analyses provide information that is used to continually develop the proprietary design software, which reduces future design iterations. A good example of many innovative designs that EMP engineers have created using these methods is an innovative pump designed to meet the requirements of today's engines. A highly efficient flow-through diffuser is used, which results in a flexible design that can be easily adapted to existing engines by allowing for various mounting locations. The new pump can improve efficiency by over 20%, decrease weight by a factor of 2.5 and cut envelope requirements by 50%. CFX helps develop innovative pumps that provide superior performance in far less time than was required in the past.

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## MONETARY EVOLUTION

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Finance is the science of funds management. The general areas of finance are business finance, personal finance, and public finance. Finance includes saving money and often includes lending money. The field of finance deals with the concepts of time, money and risk and how they are interrelated. It also deals with how money is spent and budgeted.

Finance works most basically through individuals and business organizations depositing money in a bank. Banks are the main facilitators of funding through the provision of credit, although private equity, mutual funds,

hedge funds, and other organizations have become important as they invest in various forms of debt.

Finance is used by individuals (personal finance), by governments (public finance), by businesses (corporate finance), as well as by a wide variety of organizations including schools and non-profit organizations. In general, the goals of each of the above activities are achieved through the use of appropriate financial instruments and methodologies, with consideration to their institutional setting.

Finance is one of the most important aspects of business management. Without proper financial planning a new enterprise is unlikely to be successful. Managing money (a liquid asset) is essential to ensure a secure future, both for the individual and an organization.

Finance is a very important part of our everyday life, because we need money almost every minute: paying for education or entertainment, treatment or transport, financing durable goods such as real estate and cars, buying insurance, e.g. health and property insurance, investing and saving for retirement. Nowadays money can characterize social status and the level of your own successfulness. It evaluated from means of circulation to index of our development. It became means and goal simultaneously. That is why financial crisis is felt like apocalypse all over the world. Unfortunately, they are natural and cyclic.

The best-known depression was the Great Depression. It was a severe worldwide economic depression in the decade preceding World War II. The timing of the Great Depression varied across nations, but in most countries it started in about 1929 and lasted until the late 1930s or early 1940s.

It was the longest, most widespread, and deepest depression of the 20th century, and is used in the 21st century as an example of how far the world's economy can decline. The depression originated in the United States, triggered by the stock market crash of October 29, 1929 (known as Black Tuesday), but quickly spread to almost every country in the world. The probable causes of the Great Depression include the loose money policies of the Federal Reserve and the misallocation of capital based on easy and inexpensive credit.

The Great Depression had devastating effects in virtually every country, rich and poor. Cities all around the world were hit hard, especially those dependent on heavy industry. Construction was virtually halted in many countries. Countries started to recover by the mid-1930s, but in many countries the negative effects of the Great Depression lasted until the start of World War II.

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